1. Record Nr. UNINA9910484835303321

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Titolo	Real-time Knowledge-based Fuzzy Logic Model for Soft Tissue Deformation / / by Joey Sing Yee Tan, Amandeep S. Sidhu
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2019
ISBN	3-030-15585-4
Edizione	[1st ed. 2019.]
Descrizione fisica	1 online resource (IX, 88 p.)
Collana	Data, Semantics and Cloud Computing, , 2524-6593 ; ; 832
Disciplina	511.313
Soggetti	Computational intelligence Biomedical engineering Surgery Regenerative medicine Tissue engineering Computational Intelligence Biomedical Engineering and Bioengineering Regenerative Medicine/Tissue Engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	List of Figures -- List of Tables -- Chapter 1. Introduction -- Chapter 2. Background -- Chapter 3. Methodology -- Chapter 4. Fuzzy Inference System, etc.
Sommario/riassunto	This book provides a real-time and knowledge-based fuzzy logic model for soft tissue deformation. The demand for surgical simulation continues to grow, as there is a major bottleneck in surgical simulation designation and every patient is unique. Deformable models, the core of surgical simulation, play a crucial role in surgical simulation designation. Accordingly, this book (1) presents an improved mass spring model to simulate soft tissue deformation for surgery simulation; (2) ensures the accuracy of simulation by redesigning the underlying Mass Spring Model (MSM) for liver deformation, using three different fuzzy knowledge-based approaches to determine the parameters of the MSM; (3) demonstrates how data in Central Processing Unit (CPU) memory can be structured to allow coalescing

according to a set of Graphical Processing Unit (GPU)-dependent alignment rules; and (4) implements heterogeneous parallel programming for the distribution of grid threats for Computer Unified Device Architecture (CUDA)-based GPU computing. .